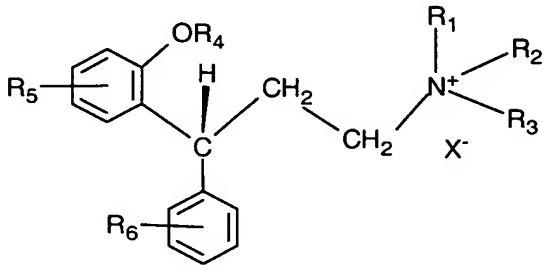
What is claimed is:

1. A method of treating IBS in a mammal, comprising administering a therapeutically acceptable amount of a compound of formula I



I

and the enantiomer thereof

wherein each R_1, R_2, and R_3 is independently H, C_1-C_5 alkyl optionally substituted with phenyl, or C_2-C_6 alkenyl, or wherein two of R_1, R_2 and R_3 may form a ring together with the quaternary ammonium nitrogen.

where R_4 is

–H,

-CO-$R_{4\text{-}1}$ where $R_{4\text{-}1}$ is

C_1-C_4 alkyl,

C_1-C_4 alkoxy,

-$NR_{4\text{-}2}R_{4\text{-}3}$ where $R_{4\text{-}2}$ and $R_{4\text{-}3}$ are the same or different and are –H or C_1-C_4 alkyl,

where R_5 and R_6 are the same or different and are

-H,

C_1-C_4 alkyl optionally substituted with 1 or 2

-OH,

C_1-C_4 alkoxy,

-COOH,

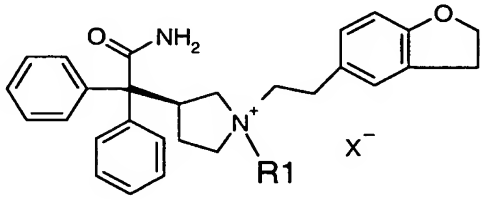
-CO-O-(C_1-C_3 alkoxy)

-F, -Cl, Br,

-CF_3,

where X^- is selected from the group consisting of the anions of the following acids hydrochloric, hydrobromic, hydroiodic, sulfuric, phosphoric, nitric, citric, methanesulfonic CH_3-$(CH_2)_{n1}$-COOH where n_1 is 0 thru 4, HOOC-$(CH_2)n_1$-COOH where n is as defined above, HOOC-CH=CH-COOH, ϕ-COOH.

2. A method of treating IBS in a mammal, comprising administering a therapeutically acceptable amount of a compound of formula II



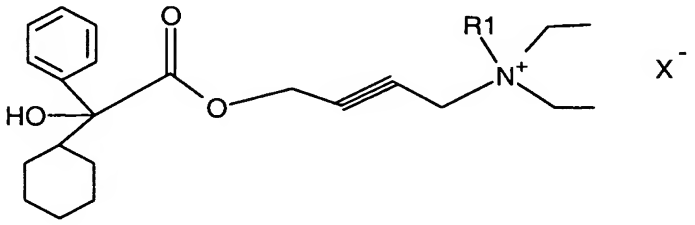
II

and any stereoisomers thereof, wherein

R_1 is selected from C_1-C_6 alkyl, -CH_2-(C_1-C_4 alkenyl), and –CH_2-(C_1-C_6 alkynyl), each of which is optionally substituted with a group selected from phenyl, C_1-C_4 alkoxy, and hydroxyl; and

X represents an anion of a pharmaceutically acceptable acid.

3. A method of treating IBS in a mammal, comprising administering a therapeutically acceptable amount of a compound of formula III



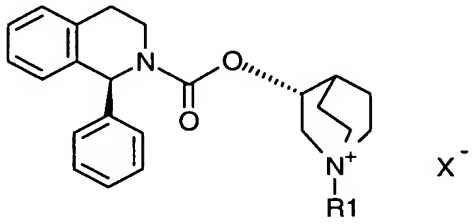
III

and any stereoisomers thereof, wherein

R_1 is selected from C_1-C_6 alkyl, -CH_2-(C_1-C_4 alkenyl), and –CH_2-(C_1-C_6 alkynyl), each of which is optionally substituted with a group selected from phenyl, C_1-C_4 alkoxy, and hydroxyl; and

X represents an anion of a pharmaceutically acceptable acid.

4. A method of treating IBS in a mammal, comprising administering a therapeutically acceptable amount of a compound of formula IV



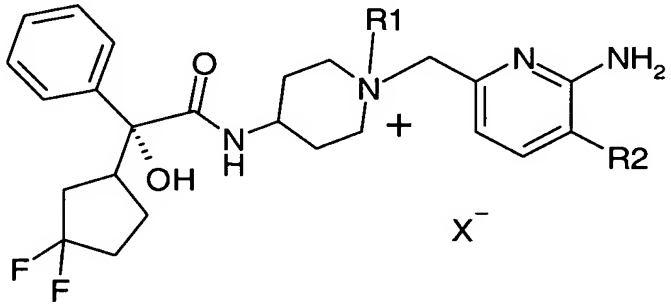
IV

and any stereoisomers thereof, wherein

R_1 is selected from C_1-C_6 alkyl, -CH_2-(C_1-C_4 alkenyl), and –CH_2-(C_1-C_6 alkynyl), each of which is optionally substituted with a group selected from phenyl, C_1-C_4 alkoxy, and hydroxyl; and

X represents an anion of a pharmaceutically acceptable acid.

5. A method of treating IBS in a mammal, comprising administering a therapeutically acceptable amount of a compound of formula V



V

and any stereoisomers thereof, wherein

R_1 is selected from C_1-C_6 alkyl, -CH_2-(C_1-C_4 alkenyl), and –CH_2-(C_1-C_6 alkynyl), each of which is optionally substituted with a group selected from phenyl,

C_1-C_4 alkoxy, and hydroxyl;

R_2 is selected from H or OH; and

X represents an anion of a pharmaceutically acceptable acid.

6. The method of any of claims 1-5, wherein X is selected from the group consisting of the anions of the following acids: tartaric, hydrochloric, hydrobromic, hydroiodic, sulfuric, phosphoric, nitric, citric, methanesulfonic, CH_3-$(CH_2)_n$-COOH where n is 0-4, HOOC-(CH_2)n-COOH where n is 1-4, HOOC-CH=CH-COOH, and benzoic.

7. The method of any of claims 1-5, wherein X is selected from the group consisting of iodide, bromide, and chloride.

8. The method of any of claims 1-5, wherein compound of formula I, II, III, IV, or V is a component of a pharmaceutical composition.

9. The method of claim 8, wherein the pharmaceutical composition comprises between about 1 mg and about 1000 mg of the compound of the formula I, II, III, IV, or V.

10. The method of claim 9, wherein the pharmaceutical composition comprises between about 200 mg and about 800 mg of the compound of the formula I, II, III, IV, or V.

11. The method of claim 9, wherein the pharmaceutical composition comprises about 600 mg of the compound of the formula I, II, III, IV, or V.

12. The method of any of claims 1-5, wherein the compound of the formula I, II, III, IV, or V.is administered orally.

13. The method of claim 12, wherein the compound of formula I, II, III, IV, or V is , a component of a tablet or capsule.

14. The method of any of claims 1-5, wherein the compound of the formula I, II, III, IV, or V.is administered as a component of a suppository.

15. The method of any of claims 1-5, wherein the compound of the formula I, II, III, IV, or V.is administered a component of an enema.

16. The method of any of claims 1-5, wherein the therapeutically effective amount of the compound of formula I, II, III, IV, or V, or mixtures thereof, are administered to a mammal in an amount from about 0.1 to about 100 mg/kg of mammal body weight /day.

17. The method of claim 16, wherein the therapeutically effective amount of the compound of formula I, II, III, IV, or V, or mixtures thereof, administered to a mammal is about 600 mg per day.

18. The method of any of claims 1-5, wherein administering the therapeutically effective amount includes administering a compound of formula I, II, III, IV, or V, or mixtures thereof, in one or more doses per day.

19. The method of any of claims 1-5, wherein the compound of formula I, II, III, IV, or V is selected from
(3R)-3-(2-Hydroxy-5-methylphenyl)-N,N-diisopropyl-N-methyl-3-phenylpropan-1-aminium iodide;
(3R)-3-(2-Hydroxy-5-methylphenyl)-N,N-diisopropyl-N-methyl-3-phenylpropan-1-aminium bromide;
(3R)-N-Ethyl-3-(2-hydroxy-5-methylphenyl)-N,N-diisopropyl-3-phenylpropan-1-aminium iodide;

(3R)-3-(2-Hydroxy-5-methylphenyl)-N,N-diisopropyl-3-phenyl-N-propylpropan-1-aminium iodide;

(3R)-N-Benzyl-3-(2-hydroxy-5-methylphenyl)-N,N-diisopropyl-3-phenylpropan-1-aminium iodide;

(3R)-N-(tert-Butyl)-3-(2-hydroxy-5-methylphenyl)-N,N-dimethyl-3-phenylpropan-1-aminium bromide;

(3R)-3-[2-hydroxy-5-(hydroxymethyl)phenyl]-N,N-diisopropyl-N-methyl-3-phenylpropan-1-aminium iodide;

(3R)-3-(2-hydroxyphenyl)-N,N-diisopropyl-N-methyl-3-phenylpropan-1-aminium bromide;

(3S)-3-(2-hydroxyphenyl)-N,N-diisopropyl-N-methyl-3-phenylpropan-1-aminium bromide;

(3R)-3-(5-Chloro-2-hydroxyphenyl)-N,N-diisopropyl-N-methyl-3-phenylpropan-1-aminium bromide;

(3R)-3-(5-Bromo-2-hydroxyphenyl)-N,N-diisopropyl-N-methyl-3-phenylpropan-1-aminium bromide;

(3R)-3-[2-(acetyloxy)-5-methylphenyl]-N,N-diisopropyl-N-methyl-3-phenylpropan-1-aminium iodide;

(3R)-3-[2-(isobutyryloxy)-5-methylphenyl]-N,N-diisopropyl-N-methyl-3-phenylpropan-1-aminium iodide;

(3R)-3-(4-Fluorophenyl)-3-(2-hydroxy-5-methylphenyl)-N,N-diisopropyl-N-methylpropan-1-aminium bromide;

(3R)-3-[2-hydroxy-5-(trifluoromethyl)phenyl]-N,N-diisopropyl-N-methyl-3-phenylpropan-1-aminium bromide;

(3R)-3-[2-(isobutyryloxy)-5-hydroxymethylphenyl]-N,N-diisopropyl-N-methyl-3-phenylpropan-1-aminium bromide;

(3R)-3-{2-(Acetyloxy)-5-[(acetyloxy)methyl]phenyl}-N,N-diisopropyl-N-methyl-3-phenylpropan-1-aminiumbromide;

2-{(1R)-3-[diisopropyl(methyl)ammonio]-1-phenylpropyl}-4-methylbenzenolate;

1-[3-(2-Hydroxy-5-methylphenyl)-3-phenylpropyl]-1-(2-methylprop-2-enyl)pyrrolidinium Bromide;

1-[3-(2-Hydroxy-5-methylphenyl)-3-phenylpropyl]-1-(3-methylbut-2-enyl)pyrrolidinium Bromide;

1-Allyl-1-[3-(2-hydroxy-5-methylphenyl)-3-phenylpropyl] pyrrolidinium Iodide;

1-Allyl-1-[3-(2-hydroxy-5-methylphenyl)-3-phenylpropyl] pyrrolidinium Chloride;

3-(2-Hydroxy-5-methylphenyl)-N,N-diallyl-N-methyl-3-phenyl propan-1-aminium Iodide;

3-(2-Hydroxy-5-methylphenyl)-N,N-diallyl-N-ethyl-3-phenylpropan-1-aminium Iodide; 1-Allyl-1-[3-(2-hydroxy-5-methylphenyl)-3-phenyl propyl]piperidinium Chloride;

3-(2-Hydroxy-5-methylphenyl)-N,N,N-triallyl-3-phenylpropan-1-aminium Bromide;

(3S)-3-(2-amino-2-oxo-1,1-diphenylethyl)-1-[2-(2,3-dihydro-1-benzofuran-5-yl)ethyl]-1-methylpyrrolidinium iodide;

4-(diethylmethylaminium)-2- butynyl alpha phenyl cyclohexane glycolate iodide;

3-methyl-3-QUINUCLIDINYL 1-PHENYL-2-ISOINDOLINECARBOXYLATE; and

(2R)-N-[1-(6-aminopyridin-2-ylmethyl)1-methylpiperdin-4-yl]-2-[(1R)-3,3,-difluorocyclopentyl]-2-hydroxy-2-phenylacetamide iodide.

20. The method of any one of claims 1-5, wherein the compound of formula I, II, III, IV, or V inhibits gut motility by at least about 10%.

21. The method of any one of claims 1-5, wherein the compound of formula I, II, III, IV, or V inhibits gut motility by at least about 20%.

22. The method of any one of claims 1-5, wherein the compound of formula I, II, III, IV, or V inhibits gut motility by at least about 30%.